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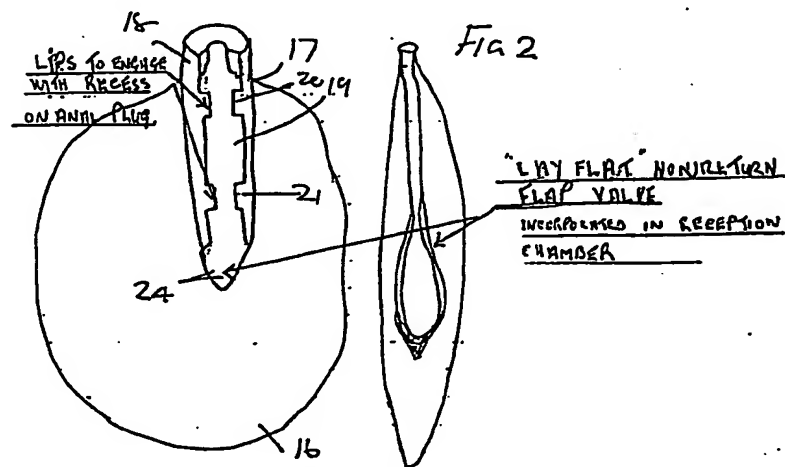
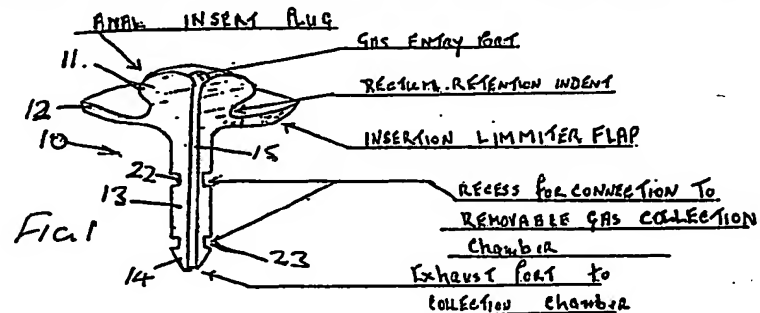
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None

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(54) Device for collecting extraneous waste gases from mammals

(57) The device comprises an adaptor 10 having one part 11 shaped to engage and be retained in an anal orifice of a mammal with a throughway 15 for release of waste gases. A flexible bag 16 for receiving the gases has an inlet provided with a non return valve 24 and means 18 to provide a releasable coupling between the bag and the adaptor so that the bag can be attached to the adaptor to receive waste gases therefrom and detached for subsequent disposal of the waste gases. The device is particularly for use by humans but may also be used with cows, the bag being secured to the body of the animal by straps or ties.

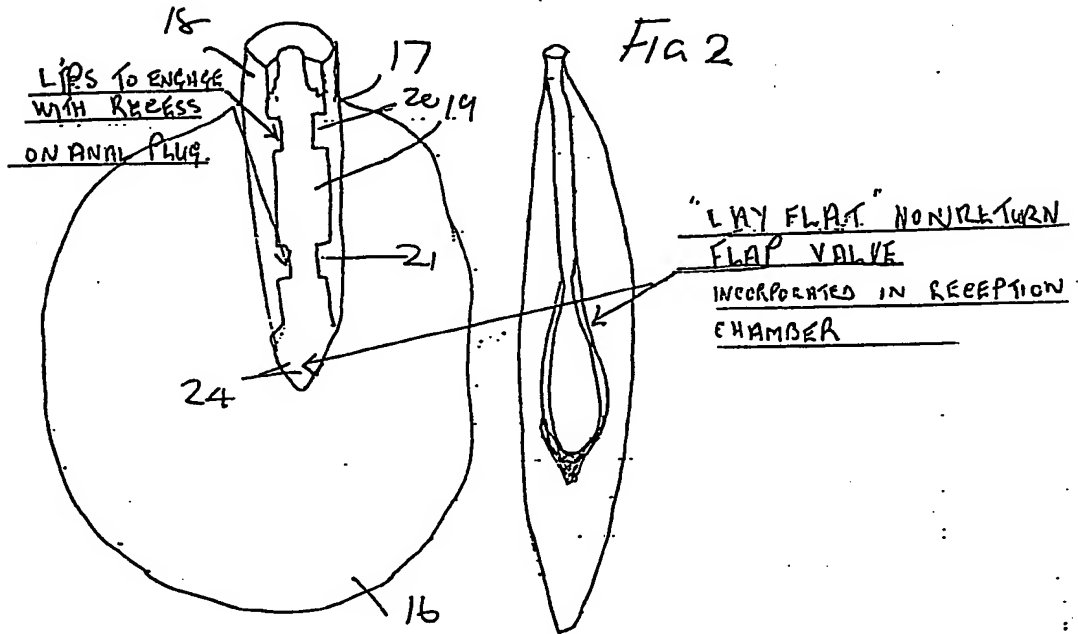
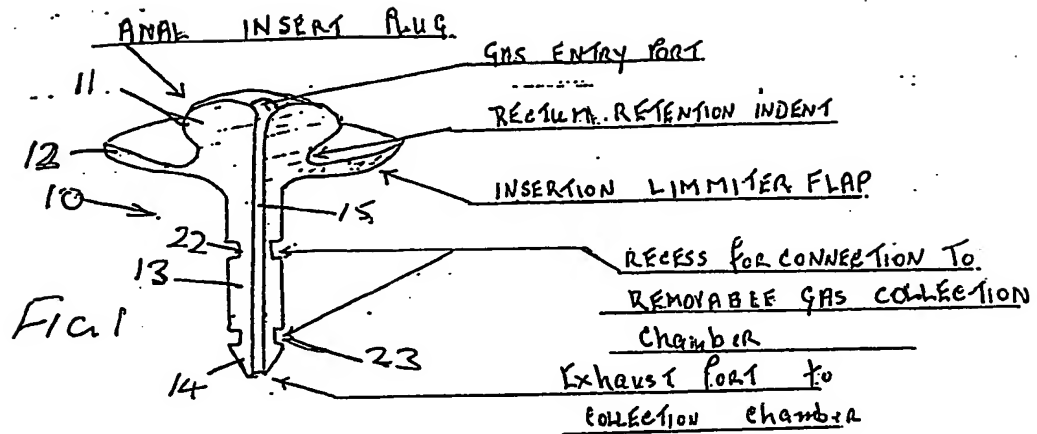


Removable Lay Flat Reception Chamber
to engage with anal insert plug

Foul Air Retrieval Trap.

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REMOVABLE LAY FLAT RECEPTION CHAMBER
TO ENGAGE WITH ANAL INSERT PLUG

FOUL AIR RETRIEVAL TRAP.

IMPROVEMENTS IN OR RELATING TO DEVICES
FOR COLLECTING EXTRANEEOUS WASTE GASES FROM MAMMALS

5 This invention relates to devices for
collecting extraneous waste gases from mammals and is
particularly, although not exclusively applicable to
devices for collecting waste gases from humans.

10 Currently vast quantities of waste gases
including methane gas and of varying degrees of
calorific value are manufactured by a natural nerve
ending biological process in the digestion of food
for every human being and animal. This huge
15 potential source of energy is currently wastefully
vented to atmosphere often to the discomfort of those
in the immediate vicinity. Moreover, it is believed
that this unrelenting discharge of methane may have a
serious effect on the ozone layer in the upper
20 atmosphere and may further contribute to the "green
house" effect with its consequential effect on the
climate in which we live.

 One observer has calculated that most humans
25 emit an amount of gas from between three to ten times
each day depending on age, sex, diet and digestion.
In extreme circumstances the emissions may be more
frequent and more voluminous. It will be appreciated
that emissions from animals, particular ruminants,
30 may be of very much larger proportions than those of
humans.

 It will be readily apparent ^{that the amount} of potential energy
being dispersed unproductively is considerable and it
35 will be highly desirable if this could be conserved
and harnessed ^{if possible}. The present inventor has

given a great deal of thought to this problem and has proposed a nationwide series of gas collection centres (G.C.C.s) where human emissions could be collected and piped into the national gas grid.

5 However the costs and administration which would be entailed would be likely to proclude this approach being ~~feasible~~. PRACTICAL. *PA*.

10 The object of this invention is to provide a means whereby gaseous emissions from mammals whether human or otherwise can be conveniently and expeditiously retained and collected to prevent the release of unpleasant or noxious fumes to the atmosphere and at the same time provide a useable
15 energy resource.

Accordingly the invention provides a device for collecting waste gases released from ^{THE ANUS} ~~an orifice~~ of a *PA* mammal comprising an adaptor having one part shaped to engage and be retained in an anal orifice of a
20 mammal with a throughway for release of waste gases, a flexible bag for receiving the gases having an inlet provided with a non-return valve and means to provide a releasable coupling between the bag and the
25 adaptor so that the bag can be attached to the adaptor to receive waste gases therefrom and separated for subsequent disposal of the waste gases.

30 It is believed that the foul air retrieval traps envisaged in the invention will provide a feasible and practical method of capturing this valuable and reuseable source of energy.

35 The following is a description of a specific embodiment of the invention, reference being made to the accompanying drawings in which:

Figure 1 is a exploded diagrammatic view of a device for collecting waste gases from a human; and

5 ~~Figure 2~~ Figure 2 is a side view of part of the device shown in a flattened condition.

The device according to the invention comprises an adaptor indicated generally at 10 having a head 11 at one end to be inserted in and retained by the anal orifice. The adaptor has an encircling flange or flap 12 adjacent the head to limit the insertion of the head into the orifice. On the other side of the flange to the head there is an elongate spigot 13 terminating in a tapered end 14. A passageway 15 is formed through the adaptor for release of gases from the anal passage.

A flexible bag 16 is provided to receive the anal gases. The base has an opening 17 in which a socket 18 is mounted to receive the spigot 13 of the adaptor into a passage 19 extending through the socket. The socket is formed inside the passage with flexible lips 20, 21 at spaced locations along the socket which snap into the surfaces 22, 23 in the spigot to retain the spigot in the socket. The inner end of the passage 19 to the spigot there is a non-return flap valve indicated at 24 to prevent release of gases from the socket when a filled bag has been disconnected from the spigot.

The bag 16 and socket 18 are formed from the flexible material so that the bag including the socket and flap valve can be flattened as indicated in Figure 2 when not filled with gas.

When each bag has been fully inflated, it is removed from the adaptor and replaced with a fresh bag. Filled bags can be taken to a collection centre where the bags would be vented into vessels suitable for conveying the gases to a processing centre from where they would be fed into the national gas grid.

The bag would ideally be formed with a metal foil coated plastic material thereby ensuring a very low leakage through the walls of bag. However if the bags are to be worn for long periods of time, a form of PVC or natural rubber or butyl may be more comfortable for the wearer. It would be appreciated that water vapour transmission through the walls of the bag should be as low as possible commensurate with user comfort.

In practice the bags may be formed of any shape or size to suit the user and could be located conveniently to the inside of the leg by attachments to the leg or can be suspended from any convenient under garment worn by the user. In the case of bags intended to be used by animals such as cows, a more robust form of attachment may be required such as straps or ties securing the bag to the body of the animal.

A further advantage anticipated by the inventor is that emissions may be made in comparative silence thereby avoiding embarrassment to the emitter and offence to those nearby.

CLAIMS

1. A device for collecting waste gases released from an orifice of a mammal comprising an adaptor having one part shaped to engage and be retained in an anal orifice of a mammal with a throughway for release of waste gases, a flexible bag for receiving the gases having an inlet provided with a non-return valve and means to provide a releasable coupling between the bag and the adaptor so that the bag can be attached to the adaptor to receive waste gases therefrom and separated for subsequent disposal of the waste gases.

2. A device as claimed in Claim 1, wherein the bag is formed with a socket in the inlet thereof and the adaptor has a spigot to engage in the socket and detent means are provided between the spigot and socket for retaining the spigot in the socket.

3. A device as claimed in Claim 2, wherein the socket has one or more flexible lips spaced along the socket and the spigot has recesses into which the lips can snap when the spigot is engaged in the socket to retain the socket in the spigot.

4. A device as claimed in Claim 2 or Claim 3, wherein the socket extends into the interior of the bag and a "lay flat" non-return flap valve is provided at the end of the spigot within the bag to retain gases in the bag when the socket is released from the spigot.

5. A device as claimed in any of the preceding claims, wherein the adaptor has an encircling flange to limit insertion of said one part

of the adaptor into the anal orifice.

5 6. A device for collecting waste gas
products from an anal orifice of a human mammal
substantially as described with reference to and as
illustrated in the accompanying drawings.

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Patents Act 1977
Examiner's report to the Comptroller under
Section 17 (The Search Report)

Application number

9100073.7

Relevant Technical fields

(i) UK CI (Edition K) A5R (RCE)

(ii) Int CI (Edition 5) A61F 5/44

Databases (see over)

(i) UK Patent Office

(ii) ONLINE DATABASE: WPI

Search Examiner

L V THOMAS

Date of Search

28 JANUARY 1992

Documents considered relevant following a search in respect of claims

1-6

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
	NONE	

Category	Identity of document and relevant passages	Relevant to claim(s)

Categories of documents

X: Document indicating lack of novelty or of inventive step.

Y: Document indicating lack of inventive step if combined with one or more other documents of the same category.

A: Document indicating technological background and/or state of the art.

P: Document published on or after the declared priority date but before the filing date of the present application.

E: Patent document published on or after, but with priority date earlier than, the filing date of the present application.

&: Member of the same patent family, corresponding document.

Databases: The UK Patent Office database comprises classified collections of GB, EP, WO and US patent specifications as outlined periodically in the Official Journal (Patents). The on-line databases considered for search are also listed periodically in the Official Journal (Patents).